

PUBLIC WORKS AND WASTEWATER TREATMENT

Wastewater Treatment Facility



Berlin's Pollution Control Facility processed 796.09 million gallons of sanitary sewer flows last fiscal year; in addition, we accepted and treated almost 197,670 gallons of septage waste from outlying communities not on their own sewer systems (i.e., septic tanks) last fiscal year.

In the process, we produced 1325.63 tons of dried municipal sludge which we trucked to the AVRRDD landfill for disposal. The treatment process removed 91.5% of the BOD (Biochemical Oxygen Demand) and 96.9% of the TSS (Total Suspended Solids) which came in with the sanitary sewer flows.

Average monthly power usage at the Main Plant increased to 1797.5 kWh/day and at our main pump station at Watson Street to 1207.9 kWh/day; peak monthly power usage at the Main Plant increased to 121.8 KW/day and at our main pump station at Watson Street to 122.0 KW/day. These amounts reflect higher flows this fall, winter and spring into the plant and the concomitant increase in processing effort to effectively treat these flows.

Maintenance has kept up with our pumping needs, and we emphasize anticipating problems before they strike. We have rebuilt the second of our Centrifuges and have installed a new positive-displacement pump to move our primary sludge. We continue to learn how to use the new Instrumentation we acquired in the Phase I rebuild, and look forward to the Phase II improvements currently in design.

Work on the new Brown Farm pump station tapered off to punch list items and we have spent much time there learning the layout and the equipment in anticipation of Substantial Completion and our taking over operation full time.



Work on Inflow and Infiltration (I&I) must be made a priority to reduce the water load that the sewer system and the treatment plant carry. As a simple way to think about it, the amount of water Berlin Water Works supplies to the City daily should be the amount of water Berlin Pollution Control Facility treats. In the same time period (FY2011) BWW produced 299.1 million gallons of water for City use per day; BPCF on the other hand treated 796.1 million gallons per day, or 266% more than BWW produced! Some sources for this extra water we treat are: roof drains that flow into the sewer system, broken manholes and sewer lines that allow groundwater to infiltrate the sewers, and "combined" sewers that catch surface runoff on paved areas and direct this flow into the sewer pipes.

This year's projects included:

- East Milan Road Sewer Project and Pump Station was Awarded to Sargent Corporation in June 2010 for \$5,422,080.
- The Phase I Contract I lining of 3100 feet of the Community College cross country line was awarded to Insituform Technologies for \$348,830 August 2010.
- Phase II upgrade to the Waste Water Treatment is in progress with (Wright-Pierce) the Engineering Consultants looking at what will be needed to incorporate the New Federal Prison into the waste water plant. The contract was signed in late June 2009.

➤ Solid Waste. The East Milan Road Landfill closure was substantially completed in October of 1996. Closure of the landfill launched the 39 year post-closure

monitoring program. Groundwater quality and methane gas production is being monitored in accordance with the program.

The Public Works Department does curbside pickup household garbage. We pick up over 4,000 tons per year to landfill at a cost of \$67/ton = \$268,000. The Public Works Department collects paper, glass, plastics, tin, aluminum and cardboard for recycling. We replaced a Packer (garbage truck) this year for \$161,000.



Public Works Services

The Public Works Department provides a number of services to the citizens of Berlin. They include: the maintenance of over 60 miles of streets and many more miles of sidewalks that need to be swept, patched and pavement overlay. We also provide snow removal, street striping, street marking, and the fabrication and installation of street and traffic signs. We construct retaining walls, install guard rails and guard fence. We provide citizens with weekly garbage removal. We maintain sewer and storm water collection systems. We provide equipment maintenance for all of the Public Works, Fire, Recreation, Health, Police and Engineering Departments as well as the Berlin Municipal Airport. We maintain gas and fuel distribution system for all City Departments. We also provide

and maintain 151 sand and salt barrels for winter use.

We periodically seal concrete sidewalks, retaining walls and bridge abutments. Members of the Department also provided utility information and project inspection for water and sewer capital improvement projects.

Street Markings. Center lines, edge lines, railroad crossings and crosswalks were painted as they are every year we did exclude three exempt railroad crossings this year. The cost of this work was approximately \$11,000. The work included approximately 216,458 linear feet of striping and 11 railroad crossings. PWD crew paints over 130 crosswalks throughout the City, all the Stop Bars, and Yellow No Parking Zones and Handicap Parking areas.

Projects Completed in the 2010-2011 Season

- Portland Street storm drain expansion
- Spring Street retaining wall repair & railing replacement.
- High Street retaining wall and railing
- Box culvert repair Coos and Gendron Streets
- Replaced over 100' of 12" RCP on storm system by Enman Hill and Grafton Street.
- Work with NH Trails Bureau and ATV clubs on ATV trails cross town connection on installing signs, road markings.
- Paved a 900 foot path through Dead River Park for dust and erosion control.
- Purchased new road sweeper-\$129,711.
- Repaired collapsed retaining wall on Guilmette Street

- Finished retaining wall on Sweden Street.
- Repaired retaining on Second Avenue.
- Community Field parking lot-joint project with Recreation and Parks.
- Repaired sidewalk at Twelfth Street
- Pine Island Ave Curb repairs
- Joint project with Berlin Water Works on High & State Streets.

Respectfully Submitted by,
Michael P. Perreault
Public Works Director



Mayor Grenier presents Paul Croteau with a plaque of appreciation for his service to the Board of Assessors; Shirley Croteau looks on.